

We Claim:

1. A method of selectively reading less than all information from an image sensor for which member-pixels of a subset of the entire set of pixels are individually addressable, the method comprising:

sampling information from a targeted member-pixel of the subset without having to read information from the entire set of pixels; and

selectively reading information from another one or more but fewer than all member pixels of the entire set based upon the sampling information without having to read all pixels on the image sensor.

2. The method of claim 1, further comprising:

reading information from member-pixels of the entire set that are located within a predetermined area adjacent to or surrounding the targeted member-pixel of the subset.

3. The method of claim 2, further comprising:

organizing the entire set of pixels into partitions, each partition having multiple pixels;

mapping one or more of the partitions one or more of the member-pixels of the subset, respectively;

reading information from all member-pixels of the subset so as to generate a plurality of samples;

handling the samples in a manner that preserves a relationship between each sample and corresponding member-pixel of the subset; and

reading information from one or more of the partitions mapped to the member-pixels of the subset but not all of the partitions based upon the plurality of samples.

4. The method of claim 1, further comprising:

determining if the sampling information exceeds a reference value; and

reading information from the one or more but fewer than all member-pixels of the entire set if the sampling information exceeds the reference value.

5. The method of claim 4, wherein the reference value represents one of a user-determined threshold or a saturation threshold for the targeted member-pixel of the subset.

6. The method of claim 4, further comprising:

reading information from all member-pixels of the subset so as to generate a plurality of samples, each member-pixel of the subset having a corresponding reference value, respectively;

applying the determining step to each of the samples; and

reading information from the one or more but fewer than all member-pixels of the entire set located within a predetermined area adjacent to or surrounding member-pixels for which the corresponding sample exceeds the respective reference value.

7. The method of claim 4, wherein:

the sampling information is the current sampling information and the reference value is a first reference value; and

the method further comprises:

taking the difference between the current sampling information and the first reference value; and

reading from the one or more but fewer than all member-pixels of the entire set if the difference exceeds a second reference value.

8. The method of claim 7, wherein the first reference value is the previous sampling information, respectively.

9. The method of claim 7, further comprising:

setting the first reference value to be equal to the current sampling information if the difference exceeds the second reference value.

10. The method of claim 1, further comprising:

measuring an elapsed time;

reading information from all member-pixels of the subset if the elapsed time exceeds a predetermined amount.

11. The method of claim 10, further comprising:

measuring another instance of elapsed time upon reading information from all member-pixels of the subset.

12. The method of claim 1, wherein the image sensor is one of a CCD image sensor for which the subset is smaller than the entire set and a CMOS image sensor for which the subset is the same as the entire set.

13. A method of selectively reading data from an image sensor, the method comprising:

reading less than all data from an image sensor for which selected ones but not all of the entire set of pixels are individually addressable.

14. The method of claim 13, further comprising:

organizing the image sensor into a matrix of partitions, each partition including a member-pixel of the subset referred to as a sampling pixel;

sampling data from a sampling pixel without having to read information from the other pixels in the corresponding partition;

selectively reading data from at least the entire corresponding partition but fewer than all of the partitions depending upon the sampled-data without having to read all of the pixels on the image sensor.

15. The method of claim 14, further comprising:

reading data from partitions located within a predetermined area adjacent to or surrounding the sampling pixel.

16. The method of claim 14, further comprising:

determining if the sampled-data exceeds a reference value; and

reading data from the one or more but fewer than all member-pixels of the entire set if the sampled-data exceeds the reference value.

17. The method of claim 16, wherein the reference value represents a saturation threshold for the targeted member-pixel of the subset.

18. The method of claim 16, wherein:

the sampled data is the currently sampled data and the reference value is a first reference value; and

the method further comprises

taking the difference between the currently sampled data and the first reference value, and

reading from the one or more but fewer than all member-pixels of the entire set if the difference exceeds a second reference value.

19. The method of claim 18, wherein the first reference value is the previously sampled data, respectively.

20. The method of claim 18, further comprising:

setting the first reference value to be equal to the currently sampled data if the difference exceeds the second reference value.

21. The method of claim 14, further comprising:

measuring an elapsed time;

reading data from all member-pixels of the entire set of pixels if the elapsed time exceeds a predetermined amount.

22. The method of claim 21, further comprising:

measuring another instance of elapsed time upon reading information from the entire set of pixels.

23. The method of claim 14, wherein the image sensor is one of a CCD image sensor for which the subset is smaller than the entire set and a CMOS image sensor for which the subset is the same as the entire set.

24. A digital camera comprising:

a pixel-differentiated image sensor for which member-pixels of a subset of the entire set of pixels are individually addressable, the image sensor being controllable to read less than all of the pixels without having to read all of the pixels; and

a processor operable to

obtain sampling information from a targeted member-pixel of the subset without having to read information from the entire set of pixels; and

selectively obtain information from another one or more but fewer than all member pixels of the entire set based upon the sampling information without having to read all of the pixels on the image sensor.

25. The digital camera of claim 24, wherein the processor is operable to selectively obtain information from member-pixels of the entire set that are

located within a predetermined area adjacent to or surrounding the targeted member-pixel of the subset.

26. The digital camera of claim 25, wherein

the entire set of pixels is further organized into partitions, each partition having multiple pixels;

one or more of the partitions being mapped one or more of the member-pixels of the subset, respectively;

the processor is operable to read information from all member-pixels of the subset so as to generate a plurality of samples;

the processor further being operable to

handle the samples in a manner that preserves a relationship between each sample and corresponding member-pixel of the subset, and

read information from one or more of the partitions mapped to the member-pixels of the subset but not all of the partitions based upon the plurality of samples.

27. A digital camera comprising:

a pixel-differentiated image sensor for which selected ones of the entire set of pixels are individually addressable, the image sensor being organized into a matrix of partitions, each partition including a member-pixel of the subset referred to as a sampling pixel; and

a processor operable to

obtain sampling data from a sampling pixel without having to obtain information from the other pixels in the corresponding partition, and

selectively obtain data from at least the entire corresponding partition but fewer than all of the partitions depending upon the sampled-data without having to obtain information from all of the pixels on the image sensor.

28. The digital camera of claim 27, wherein the processor is operable to selectively obtain data from partitions located within a predetermined area adjacent to or surrounding the sampling pixel.